

REMARKS

By the present amendment, claims 1 and 3-9 have been amended to obviate the examiner's objections thereto and/or to further clarify the concepts of the present invention. Entry of these amendments is respectfully requested.

In the Office Action, claims 1, 3 and 7 were rejected over claim 1 of U.S. Patent No. 6,637,465 to Ito et al in view of the patent to Lee et al under the judicially created doctrine of obviousness type double patenting. In making this rejection, it was asserted that, although the claims of the application and the patent were not identical, they were obvious over the other and thus were not patentably distinct. Reconsideration of this rejection in view of the above claim amendments, the enclosed terminal disclaimer and the following comments is respectfully requested.

Submitted herewith is a terminal disclaimer over the Ito et al patent which has been executed by a representative of the assignee. Accordingly, withdrawal of the rejection is respectfully requested.

The drawings were objected to for apparently not showing the "outermost layer" and the "constituent layers" as claimed. In response to the former, the term has been amended in the claims to "outer layer" consistent with the subject specification. In

response to the latter, the claims have been amended to delete this phrase. Withdrawal of the objection is requested.

Claims 1 and 3-9 were rejected under the second paragraph of 35 USC § 112 as being indefinite for the reasons stated. Some of the rejection was related to the above objection to the drawings in that it was asserted that the phrases "outermost layer" and "constituent layers" were not used in the specification. It is submitted that, with regard to the latter, the assertion is in error as the phrase appears on line 22 of page 35 of the specification. In any regard, the claims have been amended as discussed above with reference to the objection to the drawings. It is submitted that the claims are now in full conformance with the provisions of the cited statute. Accordingly, withdrawal of the rejection under the second paragraph of 35 USC § 112 is requested.

Claims 1, 3 and 4 were rejected under 35 USC § 103(a) as being unpatentable over the patent to Smith et al in view of the patent to Lee et al. In making this rejection, it was asserted that the Smith et al patent teaches the entire hose as set forth in the noted claims with one exception. In particular, it was acknowledged that the Smith et al patent does not teach a polyester resin having particles of a core-shell structure. However, it then was asserted that the use of such particles in conjunction with a polyester resin which has gasoline resistance is taught by the Lee et al patent and therefore its use in the hose according to the Smith et al patent would be obvious to one of ordinary skill in the art.

Reconsideration of this rejection in view of the above claim amendments and the following comments is respectfully requested.

Before discussing the rejection in detail, a brief review of the presently claimed invention may be quite instructive. As recited in amended claim 1, the invention relates to a fuel hose comprising at least an inner layer, at least the inner layer comprising at least one first polyester resin selected from the group consisting of polybutylene terephthalate, polybutylene naphthalate, polyethylene terephthalate and polyethylene naphthalate, and particles each having a core-shell structure, the particles being present in a proportion of 5 to 60 parts by weight based on 100 parts by weight of the polyester resin.

An important feature of the structure of the fuel hose as claimed is that at least the inner layer of the fuel hose is composed of a material prepared by blending a predetermined proportion of particles of a core-shell structure in a specifically recited polyester resin. As a consequence, the fuel hose is less permeable to fuel, and has excellent sour gasoline resistance and low-temperature flexibility. It is submitted that such a fuel hose is not taught or suggested by the patents to Smith et al and Lee et al, whether taken singly or in combination.

More particularly, the Smith et al patent relates to a fuel transport hose constructed of a polyalkylene terephthalate or a polyalkylene naphthalate. However, the Smith et al

patent does not teach or suggest, among other things, the inclusion of "particles each having a core-shell structure" as presently claimed. It is submitted that these teaching deficiencies are not supplied by the Lee et al patent.

More specifically, the Lee et al patent relates to a polyamide resin composition comprising, on the basis of 100 parts by weight of the whole resin composition, (A) 45-70 parts by weight of polyamide resin; (B) 15-35 parts by weight of an impact resistant component; (C) 5-15 parts by weight of plasticizer; (D) 0.1-3 parts by weight of thickener; and (E) 0.5-5 parts by weight of core-shell rubber. Further, the Lee et al patent describes that the polyamide resin may include polyethylene terephthalate (PET) and polybutylene terephthalate (PBT) in addition to a polyamide component. However, the Lee et al patent does not describe each proportion of PET and PBT being blended, nor Examples using a blend of PET and PBT.

Additionally, the Lee et al patent describes a hose for motor vehicles prepared from the polyamide resin composition. However, there is no teaching in the Lee et al patent regarding materials forming each layer of the hose, thicknesses of the respective layers, and methods for producing the hose. That is, the Lee et al patent does not teach the use of the polyamide resin composition as an inner layer material of a hose for motor vehicles nor is there a teaching or suggestion in the Lee et al patent regarding the use of PET and PBT as the inner layer material.

In addition, it is to be emphasized that the Lee et al patent primarily relates to a polyamide resin composition, while the Smith et al patent relates to a fuel transport hose constructed of a specific polyester resin such as a polyalkylene terephthalate or a polyalkylene naphthalate. Since a polyamide resin and a polyester resin are completely different from each other, one of ordinary skill in the art could not predict the combination of these two resins.

Therefore, it is submitted that one of ordinary skill in the art would not recognize that the particles according to the Lee et al patent could be used in a polyester hose according to the Smith et al patent since, among other things, the Lee et al patent is directed to primarily is directed to a polyamide composition whereas the hose of the Smith et al patent is a specific polyester. The mere fact that the polyamide composition containing core-shell particles of the Smith et al patent may contain a polyester would not suggest to one of ordinary skill that such particles could be incorporated into the polyester resin used in the hose according to the Lee et al patent. Consequently, one of ordinary skill in the art would have no motivation to combine the teachings of the cited patents in the manner attempted in the rejection.

For the reasons stated above, withdrawal of the rejection under 35 U.S.C. § 103(a) and allowance of claims 1, 3 and 4 over the cited patents are respectfully requested.

Claims 3 and 5-9 were rejected under 35 USC § 103(a) as being unpatentable over the same patent to Smith et al in view of the patent to Lee et al further in view of the patents to Kawazura et al and lio et al. In making this rejection, the Smith et al and Lee et al patents were applied as in the prior rejection and it was asserted that the Kawazura et al teaches the use of plural layers of polyester resins in forming a hose and the lio et al patent teaches the use of an electric discharge treatment and a layer containing an amine-rich resin. Reconsideration of this rejection in view of the above claim amendments and the following comments is respectfully requested.

The above remarks relative to the teaching deficiencies of the patents to Smith et al and Lee et al are reiterated with regard to this rejection. Thus, it is submitted that the same considerations as were set forth above in connection with the rejection based on the patents to Smith et al and Lee et al alone would be applicable to this rejection as well. It is further submitted that the patents to Kawazura et al and lio et al, whether taken singly or in combination, do not supply these teaching deficiencies.

More particularly, the Kawazura et al patent relates to a thermoplastic elastomer composition which includes a thermoplastic copolyester elastomer and acrylic rubber. Further, the Kawazura et al patent teaches a hose comprising an inner tube composed of the thermoplastic elastomer composition. However, the Kawazura et al patent does not teach or suggest, among other things, the characteristic structure of the fuel hose as

presently claimed where at least the inner layer of the fuel hose is composed of a material prepared by blending a predetermined proportion of particles of a core-shell structure in a specific polyester resin.

The Ito et al patent relates to a fuel hose including an innermost layer comprising a thermoplastic polyester elastomer having a flexural modulus of 400 MPa to 2000 MPa; an intermediate layer comprising a polyester resin and provided around the innermost layer; and an outermost layer comprising a thermoplastic polybutylene terephthalate elastomer and provided around the intermediate layer. However, the Ito et al patent does not teach or suggest, among other things, the characteristic structure of the fuel hose of the presently claimed invention where at least the inner layer of the fuel hose is composed of a material prepared by blending a predetermined proportion of particles of a core-shell structure in a specific polyester resin.

For the reasons stated above, withdrawal of the rejection under 35 U.S.C. § 103(a) and allowance of claims 3 and 5-9 over the cited patents are respectfully requested.

In view of the foregoing, it is submitted that the subject application is now in condition for allowance and early notice to that effect is earnestly solicited.

In the event this paper is not timely filed, the undersigned hereby petitions for an

Serial Number: 10/673,411
OA dated 8/23/05
Amdt. dated 11/23/05

appropriate extension of time. The fee for this extension may be charged to Deposit Account No. 01-2340, along with any other additional fees which may be required with respect to this paper.

Respectfully submitted,

ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP



Donald W. Hanson
Attorney for Applicants
Reg. No. 27,133

Atty. Docket No. 031128
Suite 1000, 1725 K Street, N.W.
Washington, D.C. 20006
(202) 659-2930
DWH/rab



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